possibly also at times the attack of COa on CH4. In good gases, which contain little C02 and H20 vapour, the transformation is not able to be considerable.

An illustration of the changes in the composition of the gas observed in practice, which result, so to say, by inter-molecular reaction by the aid of the available heat or by heating in the regenerator chambers, is set out in Table H.

If orLe sums up the combustible value of all six gas tests* in order to obtain the mean value of the loss of combustible value per 1 cubic metre of gas, one obtains

Calories.

Combustible value 6 cubic metres gas from conduits . 7,250 Less combustible value 6 cubic metres gas from conduits regenerator chambers.....6,406

Loss in combustible value in 6 cubic metres gas from chambers . . . . . 844

or, roundly, 12 per cent, of the original combustible value. But if one sums up the figures which result for the combustible value of the quantities of gas derived from 1 kilogramme C, one thus obtains

Calories.

Combustible value of the gas from 1 kilogramme C from conduits.....43,303

Combustible value of the gas from 1 kilogramme 0 from chambers.....40,269

Loss of combustible value of the gas from 6 kilogrammes C.....3,034

or, roundly, only 7*5 per cent, of the combustible value is lost. In explanation of the occurrences which caused these changes in the gas composition one may consider the relative amounts of the gases from 6 kilogrammes C, which one obtains from the addition of the amounts given for 1 kilogramme C.

| (jras from COn« ) | Cubic metre. | Cubic metre. | Cubic metre. | Cubic metre. | Cubic metre. |
|---|---|---|---|---|---|
| duits from 6 | C02 1-77+0 | 0*23+C08-604~ | H3'94+CH4 0-75+ | N 20-57 | kilogramme 0 ) |
| Gas from cham- \ bers from 6 | 2'64-f | 0*23+ | 7-98+ | 4*56+ | 0-51+ 21-75 kilogramme 0 ) |
| Thus increases | C020'87 | | H0'62 | | N 1-1 |
| „ decreases | | | CO 0-62 | | CII40-24 |